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THE WORK OF THE HEARST EGYPTIAN EXPEDITION OF THE UNIVERSITY OF CALIFORNIA IN 1903-4*

HE Hearst Egyptian expedition of the University of California was one of several sent out in 1899 to different countries through the liberality of Mrs. Phoebe A. Hearst. Peru and California, and subsequently other regions, were the scenes of the correlated archæological explorations. At the same time large collections of Greek and Roman antiquities, and others illustrative of primitive peoples in America and the other continents, were formed. In 1901 these varied archæological and ethnological explorations were formally combined into a department of anthropology of the University, and the great collections systematically amassed were brought together for the formation of a museum in charge of the department. The work of the department has since that date been prosecuted both in the field and at the University, where instruction has been organized and the collections prepared, recorded, and arranged in temporary buildings, pending the hoped-for erection of a permanent museum. The Egyptian expedition has been in charge of Dr. George A. Reisner and has been carried on continuously since 1899. Dr. A. M. Lythgoe has been associated with Dr. Reisner in this work. Explorations have been prosecuted at 4 different points in Egypt. The first work was done about 400 miles south of Cairo, in the desert east of the ancient

^{*}Based on reports from Dr. George A. Reisner.

Coptos. Here flint-working camps of the prehistoric period and subse-

quent quarries of Ptolemaic and Roman times were explored.

During the following year excavations were made on the opposite bank of the Nile at Dêr-el-Ballas. Here a large town site of the XVIII Dynasty was cleared and a mass of material illustrative of that period obtained. In 1901 work was commenced at a third point, at Naga-ed-Dêr, 300 miles south of Cairo, at the edge of the eastern desert. greater part of the excavations here were in a series of cemeteries of the predynastic and earlier dynastic periods, but work was also done in Coptic cemeteries dating to the period of Justinian. The systematic clearing of the first group of cemeteries has given results of unique importance, the discoveries made and the collections obtained having been so complete that every stage of the early development of Egyptian civilization was followed in unbroken sequence to the end of the Middle Empire. The burials at this site were found in an unusual condition of preservation, and thus have provided a splendid opportunity for the determination of the race of these earliest inhabitants of Egypt. excavations at Naga-ed-Dêr were not completed until August, 1904, so that mention of their conclusion is made in Dr. Reisner's present report.

The fourth point at which excavations were made by the expedition was at the Pyramids of Gizeh, where a concession had been obtained which gave to the expedition one-third of the pyramid field, including the third pyramid and its temples. The concession for the other two-thirds had been granted the German and Italian govern-During 1903-4 the work of the expedition was especially directed to this concession, and it is with the excavations here that Dr. Reisner's present report is chiefly concerned. It will be seen that after preliminary work had been done in a cemetery of the III and early IV Dynasties, in a wady which it was subsequently necessary to use for a dumpheap, the main excavations were made in a great cemetery of mastabas dating from the reign of Cheops through the IV and V Dynasties, with a few subsequent burials of inferior type to the end of the VII Dynasty. The results of the excavations are summarized by Dr. Reisner in an illustrated report, too lengthy for publication in full in Records of the Past. The following statements by him are excerpts from some of the more interesting passages in his report.

DR. REISNER'S REPORT

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The plan formed by the Hearst Egyptian Expedition of the University of California for the year 1903-4 provided for the concentration of all excavations at the Great Pyramids of Gizeh. At the same time it was necessary for Mr. Lythgoe and Mr. Mace to remain at Naga-ed-Dêr in order to remove burials already exposed, to make maps of the cemeteries designated as 7000, 3500, and 200, to unroll and photograph the Coptic mummies, and to photograph a mass of pottery, beads, scarabs, and other small objects. In the course of this work a large

number of very fine colored embroideries came to light which had adorned the tunics and caps of the Coptic mummies. At the same time Mr. Davies devoted 3 months to copying the inscribed tombs and painted coffins of the old empire. Finally, 140 boxes of antiquities were packed for shipment to California.

At Gizeh it was determined to clear the section of the great cemetery west of the mastaba known as Lepsius 23, the largest mastaba in the field. The huge bulk of this mastaba had caused the drift sand to bank up on its west side; and it seemed probable that the tombs under this thick covering of sand were less plundered than those in the district further west or than those nearer the pyramid.



PAINTED LIMESTONE STATUES OF A-MES (?) AND THE ROYAL BOWMAN PEN

THE EXCAVATION OF THE WADY CEMETERY

Before attacking this part it was necessary to find a suitable place on which to dump the rubbish excavated from the cemetery. The wady to the north was manifestly the most convenient spot. But we had first to find out what lay buried under the sand of the wady. Therefore, on December 9, 1903, having brought down 75 of our workmen from Keft, we began cutting a number of holes, extending, at intervals of about 10 meters, from the lowest part of the wady to the cliff marking the northern edge of the great cemetery. At a depth of from 1½ to 2 meters we came on the tops of rough structures of unhewn stone and of brick. The excavation of one of these showed an early type of

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small mastaba and accidentally revealed a still older mud-brick mas-It was clear that it was necessary to excavate a sectaba underneath. tion of this cemetery in order to obtain sufficient material to determine the date, the relation of this cemetery to the great cemetery, and the characteristics of its burial-customs and furniture. Therefore, the field railway having arrived, and also 50 more men from Keft, a large space 40x30 meters in area was cleared of sand. This work revealed a surface of decay,—i. e., a surface formed in antiquity by the decay of the upper parts of the mastabas. The upper parts of the mastabas fell to pieces owing to the action of the weather and the debris filled in the spaces between the mastabas, forming a lumpy, uneven surface of broken walls and hard packed sandy mud. The surface of decay was broken by several long dumpheaps running down from the cliff above, which were manifestly formed by dirt being thrown over the cliff in clearing the plateau above for the construction of the large mastabas of the great cemetery.

Enough of the wady having been cleared for all practical purposes, and the extent of its cemetery having been ascertained by digging, the dumpheap of the main excavation was run as an embankment straight across the wady. Thus a number of graves which could only have added to the quantity of material obtained were covered up, probably

for the benefit of a future generation of archæologists.

THE MASTABAS OF THE WADY CEMETERY

The mastabas were found, as we had seen from the first, to be built on two levels of different periods, and to be of two corresponding types. The type of the older lower level is a small isolated single-burial mastaba, with two, usually simple, offering niches on the valley side. In front of the niches is a small court marked off by a low mud wall. The mastaba is built either of mud-brick or of small stones, well plastered with mud and coated with pink lime plaster. The later type, built on the level of the tops of the earlier type, is a larger mastaba of a construction similar to that of the earlier type. But the southern niche is usually compound; and the mastabas either contain more than

one burial, or they are grouped in family complexes.

On cutting into the ancient dumpheaps described above, it was found that the mastabas of both types extended practically uninjured under these dumpheaps. The heaps themselves, though, of course, they are not uniform throughout, consist in general of an upper stratum of clean disturbed geological gravel, a middle stratum of decayed mudbrick (or plaster) and limestone chips, and a lower stratum of sandy dirt. Thus at a period subsequent to that of the wady cemetery the plateau above was cleared, and there was thrown over, first dirt, then the remains of structures of mud-brick and plastered stone, and finally the geological deposit from just above the solid rock. Furthermore, this clearing of the plateau was manifestly in preparation for the construction of Lepsius 23, which occupies a space 100 meters long by 45 wide just above the wady cemetery.



VIEW EAST ALONG THE SOUTHERN EDGE OF THE CONCESSION



LOOKING OVER SECTION I OF THE EXCAVATIONS

Thus when Lepsius 23, a tomb of the IV Dynasty, was built, the wady cemetery was already in existence and the plateau above was already occupied by tombs which contained mud in their construction. Later, tombs of both wady types were found on the plateau in places where they did not stand in the way of the stone mastabas. Therefore we have in the wady a cemetery of the early IV or late III Dynasty which probably once extended over the plateau as well as over the wady.

THE EXCAVATION OF THE GREAT CEMETERY

We began work on the great cemetery January 14, 1904. A way for the railway parallel to and about 20 meters from Lepsius 23 had been made on January 12-13 by cutting down and filling in the inequalities from the southern limit of our concession to a mound at the north end of Lepsius 23, which seemed a suitable place to begin the dumpheap. A double track was laid, with two connected turntables at each end; and 8 cars were started running the circuit of this double track. The cars were loaded on switches at the south end adjacent to the actual excavations, run out loaded one at a time on the east track, dumped at the turntables on the north end, and brought back empty on the west Thus an endless chain of cars was formed, dumping half a ton of dirt a minute when running smoothly. As the dumpheap grew to the north, the northern pair of turntables were moved out 2 meters at a time by shoving in short rails. Seventy-two men were engaged in the actual excavations and in loading the cars; 16 men, 2 to the car, were employed in running the cars, and 23 men were required to handle the dirt on the dumpheap. As the dumpheap advanced into the valley and the height of the heap increased, the turntables were moved less often, and only about 15 men were required on the dump. tem was utilized during the whole season and proved extremely practical. As the men in the wady became free, extra cars were put on and each gang was increased proportionally.

The method of excavating was that which we have followed for 4 years—namely, first of all to clear away the sand to the surface of decay, to make notes and photographs of this surface, and then to cut away the debris of decay to the surface on which the cemetery was built. As a rule, only those burial pits were opened which gave evi-

dence of having been plundered.

During the course of the excavations a number of statue chambers were brought to light and immediately opened in order to prevent damage by weather or by thieves to their contents. Six interesting stelæ were found in position. Two inscribed offering chambers were found and one which was painted. Three of the plundered pits which were opened contained interesting or valuable antiquities. A most interesting series of inscribed offering stones was found in position in front of offering niches. And finally a number of statues and inscribed stones were found in the debris of the cemetery streets.



STONE JAR, PROBABLY CONTAINING ENTRAILS, FROM A WOODEN COFFIN IN THE PIT OF A IV DYNASTY MASTABA



SOUTHEAST CORNER OF A STONE-CASED MASTABA, WITH TWO NICHES ON THE VALLEY SIDE, THE SOUTHERN ONE ENLARGED TO FORM A CHAMBER, IV DYNASTY

TYPES OF MASTABAS IN THE GREAT CEMETERY

Having by this systematic excavation established the chronological basis which is necessary to give point and value to the archæological material, the next step was to collect the archæological material itself and to register it as far as possible both by notes and photographs. Maps, plans, and sections were made of the separate mastabas and groups of mastabas; and also drawings and photographs showing the detail of construction and the offering chambers, the statue chambers,

SENNUW AND HIS WIFE. PAINTED LIMESTONE. IV DYNASTY

and the burial chambers so far as opened. The work of clearing the burial chambers is as yet hardly begun. So our results for the time being concern mainly the superstructure of the mastaba and the history of its development.

First of all, it must be remembered that the earliest mastaba was of mud-brick, using wood as an accessory in its construction. and varying in size and elaboration according to the wealth and fancy of its builder. But, whatever its form, it always fulfilled two functions—(I) if protected a burial, and (2) it provided a place for the presentation of the This mudancestral offerings. brick mastaba had developed into two types before the genesis of the stone mastaba. One type that of the large mastaba—was characterized by the development of the southern offering niche into an offering chamber. The other type—that of the small

mastaba—had, instead of an offering chamber, an inclosed open court along the whole front. At the beginning of the IV Dynasty there was a combination of these two types, in which the offering niche-chamber was walled up (concealed) and an external chapel built around a small niche in the outside wall marking the position of the concealed chamber (Medum type). The great stone mastabas of the unified plan are modeled after this combined type (Medum type). The other tombs, it may be said in passing, are copied partly from the type of the large mud-brick mastaba, partly from the type of the small mastaba, and partly from combinations of the two.



MASTABAS WITH EXTERNAL CORRIDOR EXTENDING THE FULL LENGTH OF THE VALLEY SIDE OF THE STRUCTURE AND OPENING AT THE END. MUD-BRICKS AND STONE. V DYNASTY TYPE



STONE-FACED MASTABA WITH RUBBLE CORE AND NICHES ON THE VALLEY SIDE. $\;\;$ IV DYNASTY



WHITE HEAD OF KA-NOFER FOUND IN THE BURIAL CHAMBER OF A MAS-TABA OF THE REIGN OF CHEOPS

The stone mastabas of the early IV Dynasty—that is, of the reign of Cheops—are large filled mastabas, similar in proportions to the long, rectangular, filled, mud-brick mastabas with stairways, of the III Dy-The retaining wall is built of vertical courses, each set back 5 to 10 cm. from the edge of that beneath. The filling and the construction of the walls proceeded practically pari passu, as in the filled mud-brick mastabas. These earliest stone mastabas have on the valley side an external offering chamber like the pyramids and like the earliest mud-brick mastabas of Medum and of Saggarah. The chapel is, like all funerary offering places in Egypt, on the valley side, not, as hitherto stated, only on the east side. It is built onto the finished mastaba, and centers about the southern offering niche which is always, theoretically and approximately, opposite the burial chamber. These chapels all show marks of enlargement and repairs. This fact, taken in connection with the fact that the later mastabas built in the neighborhood do not encroach on the chapel, shows that the ancestral worship was maintained for years after the funeral, probably by the usual testamentary endowment.

Structurally these chapels are of especial interest because they are of mud-brick and roofed with mud-brick, with the ordinary Egyptian barrel vault. The chamber is lighted by slits in the brickwork on the north end. The walls are finely plastered with a hard pink plaster.

The pits of all the main mastabas have been plundered in modern times. We opened 4 of these pits. They are immense square vertical shafts cut into the solid rock and continued above into the body of the filling by cleanly built masonry. This masonry did not reach the top of the mastaba. The mouth of the passage to the chamber was closed by an enormous slab of stone and the passage itself by masonry. The chamber lies to the south of the pit, is cut in the solid rock, and lined

with a beautifully finished masonry of fine white limestone. The place for the coffin, which appears to have been of wood, was a long rectangular depression usually on the west side of the chamber. In the chamber of tomb G 1203 was found the beautiful head shown in the accompanying illustration, and in all the pits fragments of alabaster ware and pottery are found.

Such are the main characteristics of the early stone mastabas. The results confirm the dating of our tombs at Naga-ed-Dêr, and extend the history of the mastaba founded on the Naga-ed-Dêr material

down to the VI Dynasty.

BASED ON REPORTS FROM DR. GEORGE A. REISNER.

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AN AMERICAN'S RECENT DISCOVERIES IN EGYPT

OR ages Egypt has been the rich storehouse for treasure-seek-There were grave-robbers in the days of the Pharoahs ready to profane the tombs of their rulers and priests for the sake of gain, and every conqueror of the country since has gone plundering over it. Finally came the scholars, as eager for antiquities as ancient robbers or the present day Fellah, seeking for knowledge as the others for wealth, but finding too often that they were centuries too late. Petrie tells of spending weeks with a large force of workmen in penetrating the pyramid at Hawara. The work in its hardships resembled quarrying for rock. The reward of the perseverance, toil, danger, and expense was the assurance that the tomb was that of Amenemhat III, and the finding of a few charred bones and a bit of lazuli. Tomb-robbers with infinite labor had tunneled into the secret chambers ages before. Then at Illahun months were passed in attacking the pyramid of Usertesen II, only to find the clear traces of the spoilers. These are but hints of the repeated experience of the archæologists in the field.

Over against such disappointments are the rich and marvelous finds which have rewarded the legitimate digging. We think of Naukratis, the unaltered town called Ha-Usertesen-hotep, Abydos, and a hundred other rewarding sites. The remains of the great kings removed at an early day from their noble vaults in the long valley back of Thebes for fear of robbers were finally brought before the world, just in time, we remember, to prevent the priceless loot being sold

piecemeal by the natives.

In view of these facts, the remarkable find described below emphasizes the immensity of rich archæological material stored away in ancient times and hints at the treasures still awaiting the uncovering by the spade of the searcher.

Every step of research has added in some way to our knowledge, until we have the story of the manners, customs, wealth, arts, religion, and science of Egypt, as well as the list of its kings. But in view of the ages of robbery and years of scholarly research and the filling of the museums of the world, as well as private collections in every land, it would seem that little could be left; and the latest discovery of the tombs of the kings has indeed well been heralded as one of surpassing interest and value. The character and amount of the objects discovered led Professor Maspero, according to the dispatches, to suggest that the find is one of the greatest in the history of Egyptian research. It is a matter of pride to us that the discoverer is an American—Theodore M. Davis, of New York. After patient work near the tombs of Rameses IV and Rameses XII, the workmen, on February 12, found traces of another sepulchre. A flight of steps was laid bare and a doorway blocked with stones. In the ante-chamber were indications of an attempted robbery, evidently abruptly stopped. The tomb itself had never been violated. The presence of Professor Maspero and the Duke of Connaught in the neighborhood warranted delay in opening

the tomb until they could be present.*

Contrary to expectation, the chamber itself was not remarkable. It was 30 ft. long by 15 ft. wide, and only 8 ft. high. The walls were There was not the painting, gorgeous as tapestry, seen in many other tombs, but untouched by the hand of time, as fresh as when they left the hands of old craftsmen, were things rich and rare beyond the wildest dreams of the archæologist. In the light of the torches held by the Egyptian attendants the blaze of gold and color was dazzling. There were chairs and chests and stools astonishingly carved and gay with gold and silver and those enamel-like colors distinctive of old Egypt. There were vases of alabaster as pure in form as the best There was a gorgeous pleasure chariot, with leather Greek work. work and six-spoked wheels. There were great jars containing wine and oil and boxes of black-painted wood, which contained pieces of cooked meat, neatly wrapped in black muslin. There were sandals of papyrus and yellow leather. There were almost innumerable "ushebti" figures in boxes, some of gold, others of silver, alabaster There was a great clothes chest of palm wood and papyand wood. There were small objects so numerous as to be impossible to enumerate, including even wigs and mirrors, and an exquisite kohl case, as though in readiness for the toilets of the occupants of the mummy cases when their long sleep should be ended.

The tomb contained two great sarcophagi near the entrance on the left side. They were of wood, painted black and gold. Within them were the mummy cases, and when these were exposed it was seen that one mummy was that of a man and the other that of a woman. The cases were double, the outer being completely plated with gold on

^{*} The particulars regarding the tomb and its contents, which follow, are part of the report given by the New York Times.

the outside, except where the face of the mummy was represented, while the inside was lined with silver. The inner case was plated with

gold on the outside, but gold was also used on the inside.

It was not only the richness of the treasures in the tomb which astonished the explorers, but more especially the skill in execution and the luxuriance of design which the objects showed. They are more remarkable than anything previously found in the land of the Pharaohs and recall the work of the French Renaissance. The back of one chair, for instance, was formed of the carved figures of the god Bes and a monkey on either side of him. Another chair was ornamented with figures in black and gold—pictures of the "eldest daughter of the king" seated on a throne, with a winged solar disk above, and a female slave bringing her a golden collar. Under each arm of the chair were painted 3 other slaves holding up offerings of rings of gold. On still another armchair the Princess Amon-sit is pictured sitting, with a cat under her chair and a female fan-bearer on either side.

To the strangely assorted party who entered the tomb it was as though they had walked straight into a civilization of 3,000 years ago. After investigation it was determined that the occupants of the mummy cases were Yua and Thua, the parents of the great Queen Teye, one of the most fascinating figures of Egyptian history. Stories of her beauty and her cleverness have come down to us through the centuries. She was the wife of Amonhotep III, about 1400 B. C., and the mother of Amonhotep IV. The latter was the famous "heretic king" who tried to replace the old religion by a solar cult and to change the name of Ammon to "The Splendor of the Sun." The new religion died with him, and the old creed was restored amid the rejoicing of the people.

It was the Queen Teye who taught her son the new idea. It has long been believed that she was of Mesopotamian descent, and this belief is confirmed by the inscriptions found in her parents' tomb.

It may be said, then, that a beautiful woman of obscure origin, was raised by the Pharaoh to be his queen. In this high position she orders a tomb for her father and mother, natives of a far-away land, who perhaps did not live to share their daughter's good fortune. And it was no mean tomb, but equal in luxury and gorgeousness to the sepulchre of any king. Into the tomb the queen places treasure upon treasure, furniture from the royal palaces, gold and silver and jewels. She puts into it a royal chariot and wine and fruit and meat, and toilet articles, and all the things her mother and father will need when they awake. And then the tomb is sealed up so that none may enter.

Stories of the treasures in the tomb reach the people, and an attempt is made to rob it, but the robbers are unable to get in, and before they have time even to loot the ante-chamber they are seen by the

guards of the Valley of the Tombs and flee.

There is one more word to say—it is to express the earnest hope that the entire contents of this tomb will be transferred, just as they

are, to the Egyptian Museum at Boulak, there to remain. That is the proper place for such treasures, which in the nature of the case ought not to be scattered far and wide.

CHARLES DE WOLFE BROWER.

WINTER PARK, FLA.

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BURIED CITIES IN CENTRAL ASIA*

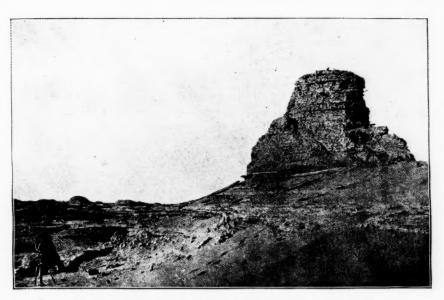
HE book on Central Asia and Tibet, by the distinguished Swedish traveler Sven Hedin, is one of the most interesting recently published. The interest is sustained throughout, as he has the happy faculty of being able to make real to his readers scenes so strange and foreign that parts of it would appear as a new Arabian Nights; but it becomes positively thrilling when he describes the almost incredible hardships endured to reach, and the eagerness with which he managed to imbue his men when they finally found, the ruins of the old towns of Lop-nor in the ancient Lou-lan, and tells of the delight which filled him on finding tablets and papers which, when deciphered, will, in all probability, add one more chapter to the book of lost people in whose history the archæological societies and magazines of to-day have aroused so much interest. And we share with the author his joy, and feel with him that his discovery is worth all the labor expended in making it.

Néar the southeastern end of the wind-swept Tarim Desert, and northeast of the Tibet of to-day, lies the bed of the ancient lake of Lopnor—its banks once a fertile oasis in the awful desolation of that sandy track which reaches in every direction for hundreds of miles are now the most forlorn and lonely of all the points in that inhospitable land. Yet here, where nothing seemed promising, did the author find, as a reward of his labors and patience, the remains which will doubtless

solve the mystery of vanished peoples.

The Lop-nor of to-day has, it seems, most probably occupied its present position only a few hundred years at best, the stream which supplied the old lake having been deflected by the silting up of the channels by sand brought in by the current, and blown in by the winds of the desert, which blow so continuously and over such vast stretches that they have wonderful destructive force. The whole desert is the basin of a former sea, with the inequalities of surface which soundings always reveal as being characteristic of the sea bottom. The Tarim River, which receives into its current the drainage of the Tian Shan on the north, the Pamir on the west, and the Kuen-Lun on the south, carries

^{*}Abstracts from Sven Hedin's book on Central Asia and Tibet; Toward the Holy City of Lassa.



CLAY TOWER SEEN FROM THE SOUTH. LOB NOR Reproduced by the courtesy of Chas. Scribner's Sons.



RUINED HOUSE. LOB-NOR
Reproduced by the courtesy of Chas. Scribner's Sons.

an immense body of water. This has at some past time found an inlet into one of these extensive depressions, and formed the ancient Lop-

nor, to which there was no outlet.

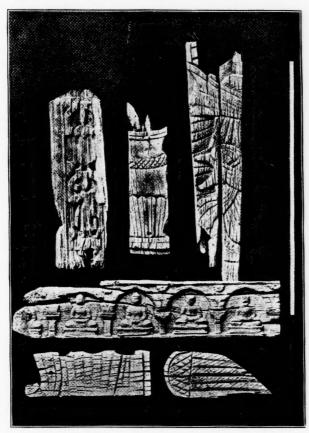
But, as the sand drifted into the inlets, an obstruction was placed to the source of supply, which was thus turned to one side, and evaporation slowly did the rest. The stream thus turned aside, until it should find a convenient resting place low enough below the surrounding level to hold its accumulated water, formed the present Lop-nor. The author uses the pendulum (hung on the lofty mountains of Central Asia) as an illustration of the wandering of this body of water, first being swung one way, then the other. And this same phenomenon he observes again in the lake of Selling-tso, in the highlands of Tibet. Between his two visits of a few years he saw very decided change of "base," as it were. One can readily see how towns and industries might grow and thrive in the one case, and decline and die in the other, for rain never falls there, and the people must be dependent upon this water which comes or has come to them from outside sources. formerly flourished on the banks of this old basin, but their stumps still standing, heaped high with drifted sand, tell a pathetic story of their

final yielding to the inevitable.

In longitude 90° east and latitude 39.45° north, on the north side of the old lake, Hedin's party came across the ruins first of two houses; one, 211/4 ft. square and with walls 31/4 ft. thick, was built of square bricks; the other was of wood, and it could plainly be seen to have been 85¹/₄ ft. long and of equal width with the other. In the larger inclosure were found "a small cannonball; an object shaped like a rowlock, but made of copper; some Chinese coins; and 2 or 3 red earthenware cups." Near this point stood a clay tower. It "was built around a framework of beams, branches, and kamish" (a species of reed abundant in the region). Some of his men discovered another tower, and near it the ruins of several houses, in which they found some corn, a rusted cable chain, copper lamps and coins, and some fragments of pottery, as well as a pitcher or jar. The view from the top of these towers was desolate in the extreme. At intervals stood a house, the wood more or less mutilated by time, but the region was entirely uninhabited. Then a systematic course of exploration was begun, that they might, if possible, find something to indicate the manner of life of these ancient people. Evidently the Chinese had been in communication with them, as their coins and shoe soles were found. Shards of clay pottery with simple ornamentation, but not a scrap of paper with any writing on it, helped them to solve the mystery. These ruins were perfectly bare, swept so by the violence of the winds that frequent these regions.

A full examination of the tower was made. This was dangerous work, as the walls were full of cracks. It was well built, was 283/4 ft. high, and held together by horizontal beams. In this immediate vicinity there were 10 houses. Some were built entirely of wood, the planks which formed the walls being morticed into a foundation framework of

beams; in others the walls consisted of sheaves of kamish, lashed by means of poles and spars; and a few were built of sun-dried brick. Most were razed to the ground, and it was impossible to draw any inference as to their age, though they looked very old, the wood being of a grayish-white color, and as brittle as glass. Three doorframes were in position, and in one the door itself was still hanging. These clay towers, dominating each group of dwellings, suggested the thought that they might have been used as watch-towers.



CARVED PIECES OF WOOD FROM RUINS. LOB-NOR Reproduced by the courtesy of Chas. Scribner's Sons.

At another point, about a mile distant, were found a group of 8 houses, of which but 3 could be measured. They were arranged as a main building, with two wings inclosing a courtyard, the southeast side of which was shut in by a fence made of boards, with an open gateway, whose posts are still standing. By digging through the sand, images of Buddha were found. A whole row of them standing were found carved on a beam, and on another beam a row of the same images sit-

ting, each figure being surmounted by an aureole shaped like a rounded arch. Another interesting relic consisted of a fish surrounded by sheaves and scrollwork, the gills and scales being very distinct. Evidently the fish was a most useful object to these people, and it is plainly to be inferred that these villages stood on the margin of a lake. The lotus flower was of frequent occurrence in the decorations. One of the men in digging came across a small tablet of wood covered with writing in some script which the author was unable to decipher. "Every letter was sharp-cut and distinct and written in India ink, but the script was neither Arabic nor Chinese, nor Mongolian nor Tibetan. What could be the purport of these mysterious words? . . . I at once took care of the little tablet, and preserved it as if it were a precious stone." The only other things found were the string of a rosary, some Chinese copper coins, and a heap of small earthenware cups.

Seventeen miles from this temple they came across a building of sun-dried bricks, which resembled a stable with 3 stalls. Here was found a fragment of crumpled-up paper with several distinct Chinese script signs written upon it. Two feet under the surface was found a kitchen-midden, containing rags of carpet, pieces of shoe leather, sheep bones, grains and stalks of wheat, and under it all 200 strips of paper containing writing, 42 tablets of wood resembling flat rulers in shape and covered with writing. This was a great find, and when deciphered will doubtless settle the question as to when and by whom

this now desolate country was inhabited.

The learned Chinese scholar Herr Carl Himly, at Wiesbaden, is now studying these inscriptions, and will soon publish the result of his researches. He has already discovered that most of the documents date from the years 264-270 A. D., as, for instance, "in the year 265 A. D. the Emperor Yuan Ti, of the Wei Dynasty, died, and in the north the Tsin succeeded to power under Wu Ti, who reigned until the year 290 A. D. Most of the copper coins which have been deciphered are what are known at wu-tshu pieces, and thus date from the period 118 B. C. to 581 A. D. There were also coins which date back to Wang

Mang, who flourished between the years o and 23 A. D."

These discoveries tell us something of the political relations in Central Asia during the early centuries after Christ, and show what extraordinary changes have taken place in that part of the world within the last 1600 years. They also show that there was a regular postal service between Lop-nor and Sachow, proving that the means of communication through the Desert of Gobi were then much the same as now. Certainly agriculture was carried on, as the "seed-corn banks," or storehouses, would show—this same system prevailing all through East Turkestan to-day—by this means equalizing the food supply. The author found only 4 towns, but the desert might easily contain several others, and in the manuscripts mention is made of "armies," "forty officials," and "numerous farms." All suggest that this district was thickly inhabited. Aside from the papers and tablets,

perhaps the most valuable find was a large red clay vase 2 ft. $3\frac{1}{2}$ in. high and $2\frac{1}{2}$ in. in diameter. A smaller vase was found in perfect condition.

The author goes on to quote Herr Himly, and from a paper by Mr. George Macartney, of Kashgar. Herr Himly says:

The name Lop-nur is not an invention of the present (Turki) inhabitants, for the word "nur," meaning "a lake," is a Mongolian word. Previous to the middle of the XVIII Century the boundary between the Khalkna Mongols and the Kalmucks, or Western Mongols, ran just here. . . . Now Loulan was the name of a country which, by reason of its situation, between the great northern highway and the great southern highway from China to Europe, played, in spite of its small size, a very important part in the wars between the Chinese emperors of the Han Dynasty and the Hiung-nu (Turks or Huns) in the II Century, before our era, in that it acted as a kind of buffer state between the two powers. The famous pilgrim, Huan-Tshuang, when on his way home from India, touched this country in the year 645 A. D., after crossing the desert from Khotan. Even at that time the inhabitants were being driven out of their houses by the drifting sands. * * * But the shifting sand was not the only danger the people had to fear: they were also in peril from vase accumulations of water. According to the Shuei-king-tshu, the waters were gathered in a basin of the lake northeast of Shan-shan (Lou-lan) and southwest of Lung-thshong (Dragon Town), which was destroyed by an inundation in the Tshi-ta epoch (1308-1311). [This was the ancient site which the author rediscovered on his last visit.] Amongst his finds were small covers, which were docketed, and for the most part bore little grooves for the strings by which they were tied. That these covers were intended for "envelopes" to hold documents might be inferred, partly from the documents themselves, and partly from similar discoveries which were made near the Niya River by Dr. Stein in January, 1901.

The copper coins discovered are of great value.

With one exception, they are Chinese, and belong to a definite series of centuries. All have the familiar square hole in the middle, by means of which they are wont to be strung together by the hundred. Inscriptions such as generally characterize Chinese imperial coins of the period beginning with the year 376 A. D., and which are without exception present on those subsequent to the year 621 A. D., do not occur on a single coin in Hedin's collection. His coins generally bear the number of the wn-tshu (5 tshu, or 5-24 liang, or 1 ounce) in ancient sphragistic script, in which the 5's resemble the Roman ten (X); this style was used between the years 118 B. C. and 581 A. D. Some of the coins bear the inscription huo-thusan (according to Endlicher's translation—"medium of barter"), well known from the Wang Mang epoch (9-22 A. D.). One coin, in which the central hole is oblong, bears an inscription which has not yet been interpreted.

Amongst the remaining objects a small cut gem is of especial interest. It shows clearly a Hermes, who, as the deity of travelers, found his way through Bactria to Central Asia. Skillfully made triangular arrows, and others smaller and flat, perhaps intended for shooting birds, and both of bronze; distaffs; an ear-ring set with pearls; copper wire; iron nails; cowrie shells, with an opening at the top made by some sharp instrument; copper and brass bells (for horses?); fragments of small bronze hand-bells; amber and

amber beads; copper rings; various kinds of domestic utensils or fragments of the same made of different kinds of stone or semi-precious stones, such as

nephrite, alabaster, ornamented green glass, etc. * * *

As to the question of the period at which the place perished, and what it—whether town or country—was called, here the documents which Hedin discovered speak more clearly. The name Lou-lan occurs both on the wooden tablets and on the fragments of paper, and in such a connection as to leave no doubt that this was the name of the place to which the letters were addressed, or at which they were preserved. One of the tablets speaks of letters which were sent to Tun-huang and Tsiu-Thsuan (Su-Chow). On the same tablet, but below this statement, the 15th day of the 3d month of the 6th year of the Thai-Shi epoch—that is to say, the sixth years of the Emperor Tsin Wu Ti (265 A. D.)—is given as the date on which a letter was received in Lou-lan.

From all this there can scarcely exist a doubt that this was the site of the ancient Lou-lan, and that Lou-lan stood beside the ancient lake of Lop-nor. The town would seem to have been destroyed by a desert storm or by an inundation, or by both, in the beginning of the fourth century. The people would then seem to have built in the same neighborhood another town, the so-called Dragon Town, which in its turn was destroyed by storm and flood in 1308-11.

So much Herr Himley has already deciphered. It seems probable that further excavations and studies will reveal many more interesting facts. We can promise our readers a rare treat in following these pages.

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BOOK REVIEWS

ALONG THE NILE WITH GENERAL GRANT*

N his charming book under the title of Along the Nile with General Grant, Mr. Farman has depicted the scenes of Egypt as they were seen by General Grant. At the time of Grant's visit to Egypt Mr. Farman was United States Consul General at Cairo, and so had the honor of being a member of General Grant's party. As the author spent a number of years in Egypt and made several trips up the Nile, besides keeping in touch with the recent excavations, he has interwoven much more information than was available at the time of Grant's visit—May, 1877. This method of treatment brings together in a popular and interesting manner the summary of our knowledge of ancient and modern Egypt up to the present time. In some places the change in point of view from the time of Grant's visit to the present is not quite clearly enough marked, but the general effect is very satisfactory.

Mr. Farman states in his preface that: "This book is not for the learned Egyptologist. It is hoped it will be of interest to those readers

^{*}Along the Nile with General Grant, by Elbert E. Farman. LL. D. Illustrated. The Grafton Press, New York.



TEMPLE OF SETI I, KURNA, THEBES Photograph by Frederick B. Wright.

that have not had the opportunity of making Egyptology a special study, but who are interested in the ancient works of Egypt, that have been the admiration and wonder of all subsequent periods." The value of such a book is liable to be underestimated by the specialist to whom it might seem elementary, but as only a few can devote their time to such study it is absolutely essential that there be some medium through which the results obtained by the detailed investigator can be communicated to the average intelligent reader. Mr. Farman has been eminently successful in his effort in this direction.

The reader is conducted up the Nile to the Island of Philæ, stopping wherever General Grant's party stopped. A description of the ruins at each point is given, together with a brief summary of what has since been discovered. The descriptions of the inhabitants is specially interesting because of the character of the visiting party and the special receptions planned for them on this trip. It is evident, however, that the Arab donkey boys were no respecter of persons, and Grant, "the King of America," as they considered him, needed as much protection from their demands for bakshish and requests to employ their donkey as the ordinary traveler of the present day.

Numerous illustrations add greatly to the attractiveness of the volume.

A good example of the author's method of treating the subject to bring it up to date is found in the following quotation concerning Abydos:

Early the next morning we landed at Belianeh, the usual starting place for an excursion to Abydos. We left the boat at 8 o'clock, the time having been fixed by General Grant the previous evening. The representative of the governor of the province of Girgeh sent a horse for the general's use. The other members of the party were furnished with donkeys selected by Hassan from the large numbers that were offered and pressed upon us with the usual persistence of the donkey-boys. * * *

Abydos has long been regarded as the cradle of Egyptian civilization, the site of This, or Thinis, of the I and II Dynasties of the Pharaohs. The discoveries in its vicinity during the last three years have not only confirmed this

opinion, but have brought to light relics of a number of kings of the I Dynasty,

including Menes, the founder of the Pharaonic monarchy.

This is his reputed birthplace, and the burial-place of the head of Osiris. According to the Egyptian myth, Osiris was placed alive by his brother Set, afterward called Typhon, and his accomplices, in a box and the cover tightly nailed. The box was then thrown into the Nile and carried by the current out to sea. Isis, inconsolable, roaming over Egypt and the neighboring countries in search of her husband, found the box with his body on the coast of Phœnicia and brought it back to Egypt. Set, having discovered the body, tore it into pieces and scattered the fragments over the valley of the Nile. These were found by the bereaved Iris, and the head was buried in Abydos. As to the burial of the other parts of the body, the legends do not agree.



TONDA, A STORY OF THE SIOUX*

N this work we find both the result of a close study of the facts of history and a clear perception of the value of those studies as aiding the ethnologist, since we have here preserved in an interesting manner many of the customs and practices of a fast-vanishing race.

Tonda herself is of the best type of Indian blood, a young girl who has been sent from her people to the East to study for three years, and who returns to them unspoiled by her contact with the whites, yet bringing to them much that is for their betterment. She is beautiful and charming, and an old liking between herself and a young warrior is soon resumed. The traditional rival is, of course, on the ground, but

^{*}Tonda: A Story of the Sioux. By Warren K. Moorehead. Pp. vii, 309. Cincinnati: The Robert Clarke Co. See advertising pages of Records of the Past.



STRONG HEART ESCAPES FROM THE HERD

the defense of the girl by her lover from the attacks of some neighboring Indians wins her love, and—but we will not disclose too much of the plot, leaving for the reader the pleasure of discovering for himself the ending.

The greed and injustice both of agents and traders are well shown, and we come to see that it ill behooves us as a nation to criticise too



RED CLOUD AND PROFESSOR MARSH

freely the policies of other governments in their care of their wards. The Indians' skill in fighting, riding, jumping, and most remarkable of all, skating, is well brought out, especially in the latter accomplishment, when one of them, an Ogalala, skated ten miles ahead of a pack of hungry timber wolves, and finally saved himself by a jump 4 ft. in the air and 15 ft. forward.

A vivid description of a buffalo hunt is given, and the preparations for it, which are more or less religious in character. The dance was a serious performance, and each man who took part prepared himself with all care, wearing a mask of buffalo skin, to which are fastened the horns. These striking together in the dance made a sound resembling that made by the animals in galloping over the hard earth. This headdress is heavy, and a warrior cannot dance over two hours with it covering him. Outside, but within sound of the music, the women were assembled, when suddenly an old woman announced the "lover's dance." Whereupon fifteen or twenty unmarried women moved to one side, and began a low chant. This sound soon reached the younger men within, and many of them threw aside their masks, and rushed out, showing themselves dressed elaborately, and adorned with feathers and The young women moved forward with graceful motion, although it somewhat resembled a shuffle. "The young men advanced, hopping on one foot, then on the other; then, when the lines were about 10 ft. apart, all turned suddenly and danced backward to opposite sides." A new tune was now struck, and the young men began the love chant. This was carried on for some hours.

The whole camp, except a few old people and some of the sick, went to the buffalo hunting-ground. Extra horses were taken along to bring back the meat. Then follows an exciting description of the hunt, in which a wonderful act of agility and courage on the part of Tonda's lover is described in detail.

The funeral ceremonies are given at some length, and the war dance which preceded the battle of the "Little Big Horn."

It is in these detailed accounts of the customs of the Indian tribes that we feel the book to be most truly valuable, for the opportunities are every day growing scarcer for such studies, and yet for future generations these pen pictures will be the best medium for reproducing a pitcure of those vanished people, for vanishing they surely are.

A very full and most intensely interesting account of the matters leading up to, and a vivid picture of the fight itself in which Custer and his whole command, with the exception of one man, lost their lives, furnishes one of the later chapters of the book, and a pertinent contrast is drawn between the success which the British government has had in managing her Indian tribes and that of our own government, causing one to ask, as does the author, Why should this be so?

As an appendix is given a part of Major Reno's report to Captain E. W. Smith, explaining why he did not go to Custer's relief, as the General so evidently expected him to do.

Altogether we feel that the book richly deserves the success we believe will attend its appearance, for a great variety of tastes will be gratified by its perusal.

MEDIAEVAL AND MODERN HISTORY*

The revised edition of Mediaeval and Modern History, by P. V. N. Myers, is an abridgment of his two-volume edition of The Middle Ages and The Modern Age. A number of new colored maps have been added to those taken from the two earlier books referred to above. The book is designed as a companion volume to the author's revised edition of Ancient History.

子子子 EDITORIAL NOTES

NEW GUINEA STONE ADZES:—The quarries from which most of the material is obtained for the stone adzes used along the southeast coast of New Guinea, are situated near Sulgoa. The two villages here, which formerly had a monopoly of this trade—a veritable relic of the stone age—have been almost entirely exterminated by an epidemic. The former importance of their trade, however, is still shown by the deposits of chips found on the coast. For 400 yards the beach, usually sandy, is covered with a deposit of chips from 4 to 6 inches deep, which extend from below the low-water mark up to the edge of the jungle. The quarries themselves are on the hillside, and around them are extensive deposits of chips and unfinished implements. The tool used for shaping the stone implements is a spherical pebble.

DERIVATION OF YAHVEH:—Professor Sayce has returned to the charge about his derivation of the Hebrew word Yahveh, or Yeho. On the authority of a proper name in Mr. C. H. W. Johns's "Assyrian Deeds and Documents," he declares that Au is merely the Semitic form of the Sumerian A, this last being the name of the sungoddess. From this he claims that a Syrian proper name, Au-bihdi, recorded by the same author, is "obviously identical with Yau-bihdi, the name of a king of Hamath, which is also given as Ilû-bihdi by Sargon," and that Au and Yau were equivalent to Assyrian writers. He further adduces a West Semitic name, Yaum-ilu, or "Yeho is god," occurring in a Babylonian document of Hammurabi's time, and a lexical tablet making Yau one of the equivalents of the ideograph il, or god. We have it, therefore, that in Professor Sayce's opinion the name Jehovah can be traced to that of the Sumerian sun-goddess A.—

The Athenaeum, London.

DISCOVERIES AT KARNAK:—The details of M. Legrain's discoveries at Karnak are given in the current number of the *Recueil de Travaux*, and prove quite as interesting as was anticipated. As has

^{*}Mediaeval and Modern History, by Philip Van Ness Myers. Revised Edition. 12mo. Cloth. xvi + 751 pages. Illustrated. Ginn & Co.

been already announced in the daily papers, his chief discovery was that of a pit or well, in which, when the water was at last removed, there appeared no fewer than 457 statues of one kind or another, and nearly 8,000 bronze figures of Osiris and other gods. M. Maspero's opinion, here recorded, that the pit was a favissa, into which were cast things past service belonging to the cult, would not lead one to suppose that they were all in a good state of preservation; but M. Legrain's own theory seems to be that they were thrown in all at one time and in haste. From them he is able to show that the site of ancient Thebes covers treasures going much further back than has hitherto been thought possible, and he hopes that further excavations may lay bare monuments as archaic as anything hitherto found at Abydos or Negadeh, Hieraconpolis or Saggarah. Meanwhile he tells us of a new king, Merankh-Ra, a Mentuhotep of the XI Dynasty, who seems to have been the sixth of that name. There are also a Usertsen IV, a Neferhotep III, and a Sebekhotep VIII to be added to the list of kings in the shadowy period between the XII and the XIV Dynasties; and we hear for the first time of a joint reign shared between Heru-seb-khanut II, evidently the last Tanite king of the XXI Dynasty, and the Libyan soldier Sheshong I, who was probably King Solomon's suzerain. M. Legrain is able also to establish from his discoveries regular pedigrees of some of the kings of the XXII Dynasty, including Sheshong himself, Osorkon II, and a Horsiesi, who seems to have reigned conjointly with the last named. The article will clear up several disputed points in the history of Egypt, but the full effects of M. Legrain's find will only be seen when his monuments are published.—The Athenaeum, London.

THE CEMETERY OF COMMODILLA, in Rome, has been rediscovered and is proving to be of great interest. The Commissione di Archeologia Sacra, after gathering all the information concerning this Cemetery, began excavating last year. The chapel or oratory of the three martyrs was opened December 11, 1903, and was found to contain a remarkable set of paintings. This chapel was entered by Boldetti in 1720, but a number of paintings besides those described by him have come to light. One hundred and twenty-four inscriptions were discovered in the adjoining galleries. The earliest date found was 367, and the latest 527. One complex inscription is as follows:—

"Here lies—[name lost]—who was born in the year 386, under the consulship of Honorius and Evodius, on the 23rd day of August, on a Sunday, on the 12th day of the moon, and under the sign of capricorn."

On February 14, 1904, a most interesting discovery was made, when a wing was discovered which had not been entered since 523 or 526, when its entrance was walled up by the masons of Pope John I. Here there is evidence to show that the spoliation of the tombs began in the first quarter of the VI Century and not in the last of the VII, as had been supposed heretofore. Stones which sealed the tombs were found in fragments on the floor, and the absence of all objects of value show

that before walling up the wing the masons removed everything of a marketable value.—[Athenaeum, London.]

NEGRITOS OF ZAMBALES:—A recent publication of the Ethnological Survey issued by the Department of the Interior is on the Negritos of the Philippine Islands. It contains 3 sections—Negritos of Zambales, Nabaloi of Benguet, and Batak of Paragua—and is very finely illustrated by types of these interesting primitive people. Concerning the Negritos of Zambales, the author, William Allan Reed, says:

Probably no group of primitive men has attracted more attention from the civilized world than the pygmy blacks. From the time of Homer and Aristotle the pygmies, although their existence was not absolutely known at that early period, have had their place in fable and legend, and as civilized man has become more and more acquainted with the unknown parts of the globe he has met again and again with the same strange type of the human species until he has been led to conclude that there is practically no part of the tropic zone where these little blacks have not lived at some time.

Mankind at large is interested in a race of dwarfs just as it would be in a race of giants, no matter what the color or social state; and scientists have long been concerned with trying to fix the position of the pygmies in the history of the human race. That they have played an important ethnologic role can not be doubted; and although to-day they are so scattered and so modified by surrounding people as largely to have disappeared as a pure type, yet they have everywhere left their imprint on the peoples who have absorbed them.

The Negritos of the Philippines constitute one branch of the Eastern division of the pygmy race as opposed to the African division, it being generally recognized that the blacks of short stature may be so grouped in two large and comprehensive divisions. Other well-known branches of the Eastern group are the Mincopies of the Andaman Islands, and perhaps also the Papuans of New Guinea, very similar in many particulars to the Negritos of the Philippines, although authorities differ in grouping the Papuans with the Negritos. The Asiatic continent is also not without its representatives of the black dwarfs, having the Sakai of the Malay Peninsula. The presence of the Negritos over so large an area has especially attracted the attention of anthropologists, who have taken generally one or the other of two theories advanced to explain it: First, that the entire oceanic region is a partly submerged continent, once connected with the Asiatic mainland, and over which this aboriginal race spread prior to the subsidence. The second theory is that the peopling of the several archipelagoes by the Negritos has been a gradual spread from island to island. This latter theory, advanced by De Quatrefages, is the generally accepted one, although it is somewhat difficult to believe that the ancestors of weak and scattered tribes such as to-day are found in the Philippines could ever have been the sea rovers that such a belief would imply. It is a well-known fact, however, that the Malays have spread in this manner, and, while it is hardly possible that the Negritos have ever been as bold seafarers as the Malays, yet where they have been left in undisputed possession of their shores they have remained reckless fishermen. The statement that they are now nearly always found in impenetrable mountain forests is not an argument against the migration-by-sea theory, because they have been surrounded by stronger races and have been compelled to flee to the forests or suffer extermination. The fact that they live farther inland than the stronger peoples is also evidence that they were the first inhabitants, for it is not natural to suppose that a weaker race could enter territory occupied by a stronger and gain a permanent foothold there.

The attention of the first Europeans who visited the Philippines was attracted by people with frizzly hair and with a skin darker in color than that of the ruling tribes. Pigafetta, to whom we are indebted for an account of Magellan's voyage of discovery in 1521, mentions Negritos as living in the Island of Panglao, southwest of Bohol and east of Cebu. If we are to believe later historians, the shores of some of the islands fairly swarmed with Negritos when the Spaniards arrived.

OFFERINGS AND SACRIFICES IN EGYPT:-For some years Rev. M. G. Kyle, D. D., has been studying Egyptian offerings to discover, if possible, the full meaning of the pictured representations, and whether they were sacrifices in the same sense as those of other Oriental countries. His conclusions are contained in the following quotation from his article on this subject in *Bibliotheca Sacra* for April.

Let us make a note of what the monuments actually contained concerning the sacrifices, and of some important things that they did not contain. Tens of thousands of scenes do represent offerings of some sort, and, judging by the frequency with which the offering scenes occur, it must be concluded that the offerings were among the most common and universal events of Egyptian life. Concerning these offerings, it is important to know, first of all, two things: Were they offerings for or offerings to; i. e., were they supplies or were they sacrifices? The correct answer here lets in the first great light on the subject.

The larger portion of the offerings were offerings for, i. e., supplies; in part for the gods, in larger part for the dead, and in either case, in part at least, recovered for the benefit of the offerer or the priest. By far the largest part of the so-called Egyptian sacrifices were supplies for the dead, in which there was no true sacrificial idea whatever, except it be by a sort of indirection in the New Empire, when, through the influence of the Osirian myth, every man was in some sense deified and called an Osiris. In the case of the offerings for the gods, there was some sacrificial idea; but, as there is no trace of a truly sacrificial meal, there seems to have been no true idea of fellowship with the gods by means of the sacrifice. Thus, at the very outset of the investigation, it appears that the largest portion of the offerings of Egypt, being only supplies for the gods, or, more especially for the dead, are removed entirely from the domain of the sacrificial question.

It is with the smaller remaining portion of the offerings, those which were offerings to the gods, true sacrifice, that we are most concerned. There are seen beeves, sheep, goats, gazelles, geese, birds, singly or in droves or herds, being brought to the place of sacrifice, being slain by the priests, the larger animals dismembered and the smaller animals and the fowls presented whole, together with bread, fruits, flowers, incense, and various vessels containing, as the inscription inform us, beer, wine, and oil. Aside from the literature of the subject, what does the portrayal of the offerings on the monuments reveal concerning these? What was the relation of the offerer to the

offering, and what was done with the offering?

The relation of the offering to the offerer is one of great obscurity. What is known not to have been is more, and more important also, than what is known to have been. That the offering was an offering from the offerer, and not merely supplies or a species of tribute due to the god, while not absolutely proven, seems sufficiently attested by the worshipful attitude of the offerer, instead of the business-like conduct that would otherwise be expected. That the offering was *instead of* the offerer, there is no evidence. Herodotus says it was so, and he may have seen the laying on of hands for the transfer of the guilt of the offerer to the offering, which he describes, or he may have supplied it from his knowledge of sacrifice in general. If he actually saw what he describes, it may have been that Greek or other foreign influence produced it, or what he saw may have been an exceptional case. Certain it is that the innumerable pictures of Egyptian sacrifice do not support his statement. practice could not have been a common one among the Egyptians, otherwise it could not have escaped entirely the pencil and the chisel of the artist; yet of the 10,000 sacrificial scenes I have examined I do not know of a single instance where the laying on of hands is depicted. The transfer of the sins of the offerer to the victim and the substitution of the victim for the offerer have no support whatever in the offering scenes.

One question yet remains concerning the sacrifices to the gods: What was done with them? The answer is threefold: They were presented before the god, sometimes waved in the hand, or most frequently laid upon the offering table, or more rarely placed upon an altar. It is a reasonable presumption that they were not wasted, but that, after being presented, they were taken away for the benefit of the offerer or the priest, though this is not certainly known. There is no evidence of any ceremonial feast, and it is certain that the sacrifices were not burned. No preparation was made for the burning of the sacrifice; no brazier of fire is ever seen about the altar except the censer or incense dish, no inflammable material is ever seen on the altar, or in waiting round about it, or being brought to it; and the arrangement of the sacrifices on the altar precludes the possibility of burning. Whole carcasses of animals or fowls and the quarters of beeves, together with fruit and other offerings, are seen arranged on the altar to the very edge, and built up in a heap with perpendicular sides to a great height. Even if inflammable material were placed underneath, as it never was, the burning would have been impossible; for no sooner would the flames begin to melt the fat a little than the whole heap would slip

off in every direction on the floor of the temple.

The altars themselves were not intended for the burning of sacrifices, being too small for such large sacrifices as are seen, perfectly flat on the top, without flange or gutter to retain the fire and ashes on the top. Moreover, the altars found have never had sacrifices burned upon them. Last of all, it must be considered that where sacrifice is burned the burning is the last and most spectacular scene in the whole ghastly tragedy. If it were a customary part of the Egyptian sacrifice, it is incredible that, in all countless sacrificial scenes, the artist should always miss the most striking part of the spectacle, more especially as Egyptian art, whatever its shortcomings, excels in giving the characteristic touch to every object and every action. Yet the burning of

sacrifice in the Egyptian religion is never depicted.

